



THE SOURCE



NEWSLETTER OF THE NHDES DRINKING WATER SOURCE PROTECTION PROGRAM
ON THE WEB AT WWW.DES.NH.GOV/DWSPP

SPRING 2004

Back to the Basics: A New Hampshire Source Protection Primer

Every three months, The Source brings you news about groundwater and source water protection methods, success stories from around New Hampshire, and updates on emerging issues, guidance, and assistance available from DES and other agencies. But for our newer readers, this month's feature reviews the basic framework of source water protection.

“Source water” is shorthand for “drinking water sources,” and includes the wells, reservoirs, rivers, etc. that supply water to public water systems as well as groundwater resources that supply private wells. The aim of source water protection is to maintain the highest quality possible for source water by minimizing the likelihood of contamination. In many cases, economic reality dictates that source water protection be balanced with other community goals such as land development and recreational use of surface waters.

Although DES and other agencies provide some protection for both groundwater and surface water, source

protection is largely the responsibility of suppliers and local governments. Specific requirements vary according to the type of water system and when the sources were developed. Consequently, the degree of protection is largely left up to the discretion of water suppliers and local governments.

The first step in source protection is to “delineate” the *source protection area*, which is the area that contributes water to the source.

For groundwater sources, this is the *wellhead protection area*. For surface sources, it's the watershed, although some are so large that protection efforts need to focus on critical segments. For towns in which residents rely on private wells, the protection area may be the entire town or may focus on high-priority areas such as stratified-drift aquifers or potential future well sites.

The next step is to identify the actual and potential threats in the source protection area. For public water systems, the Drinking Water Source Assessment Reports prepared by DES include inventories of “potential contamination sources” (PCSs), which are land uses that involve the use of significant quantities of substances that have the potential to contaminate groundwater or surface water if not properly managed. Municipalities can use these assessment reports in conjunction with town-wide Drinking Water Resource Maps and Inventories provided by DES. In addition, a local source protection program should take into account septic systems, agricultural and recreational activities, and potential future land uses in the protection area.

The next step is to decide which types of potential threats should receive attention. The majority of source protection programs in the state focus on PCSs, since they represent the activities that historically have caused the most contamination incidents. PCSs are typically addressed through a combination of education and periodic inspections – conducted by the water supplier or a town official – to ensure that PCS businesses are employing the best management practices dictated by DES's rules.

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Less Than 3 Months Left! A Reminder to Community Systems Serving 3,300+ People

Vulnerability Assessments (VA) are due to EPA by June 30, 2004. Operators who attended the Custer Battles training in Winter 2003 may contact CB directly for assistance at 401-848-7500. Operators conducting their VA using the New England Water Works ASSET Tool may contact NEWWA directly for assistance at 508-893-7979. Please do not send VAs to DES since they contain sensitive information. Directions on how to mail your VA to EPA can be found on the DES website at www.des.nh.gov/wseb under Water System Security. You can also contact Johnna McKenna at 271-7017 or jmckenna@des.state.nh.us. And don't forget that Emergency Plans are then due to EPA and DES by December 31, 2004.



Spotlight on ... Belmont, Tilton, & Northfield

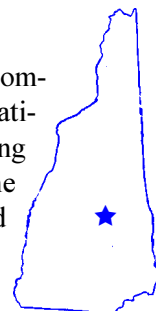
By Kristen Clothier, Regional Planner, Lakes Region Planning Commission

Beneath the towns of Belmont, Northfield, and Tilton lies a stratified drift aquifer which supplies drinking water to 29 percent of the towns' residents and has the potential to provide additional sources of drinking water to meet future needs. Recognizing the importance of this shared resource, the three towns have been working together, with the assistance of the Lakes Region Planning Commission, on a comprehensive planning project focusing on the long-term protection of the aquifer as a drinking water resource.

Funded in part by a DES Source Water Protection Grant, the project sought to provide the towns with information and resources to assist them in implementing strategies to minimize negative impacts to existing and potential future water supplies drawn from the aquifer while taking into account current and future growth trends, economic needs, and associated land uses. The project benefitted from the participation of a Water Resources Committee comprised of community representatives who contributed extensive knowledge of town-specific concerns and issues.

The recently released project report, available in each town hall and on the LRPC web site,

provides the three towns with a comprehensive assessment of their stratified drift aquifer resources, including exploring potential threats to the quality and quantity of present and potential drinking water sources and providing recommendations for addressing the most significant threats.



Threats to water quality and quantity within the aquifer are divided into four broad topics in the final project report: growth and development, present and future land uses, potential contamination sources, and reductions in recharge.

An additional product, a four-page project summary, was developed as an education and outreach tool and is also available in each town hall. As part of this project, a common vision for the three towns was developed. The following is a quote from the common vision: "Each of our towns recognizes that we share this valuable resource and agree that there is the need for continued collaborative drinking water resource planning." The communities are now beginning to implement key project recommendations in a continued effort to reduce threats to the stratified drift aquifer so that it can continue to serve as a drinking water resource for present and future generations.

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Another common approach to managing potential threats is through aquifer or groundwater protection zoning. This approach can only be implemented by local governments and deals only with future land uses. DES's *Model Groundwater Protection Ordinance* combines zoning with a local inspection program to address both existing and future PCSs.

The surest way to protect any source is to permanently protect the surrounding land through ownership or easements. This is also the most expensive route to take, but DES's Water Supply Land Grant Program can contribute up to 25 percent of the value for eligible land or easements.

For surface sources, all of these approaches (education, inspection, regulations, and land conservation) are recommended. Because watersheds typically extend beyond a single town's jurisdiction, DES works with water suppliers and the affected towns to adopt state-level rules addressing activities along shorelines, on the water, and in the watershed as a whole.

This article is a brief survey of source water protection; it is far from comprehensive. DES's Drinking Water Source Protection Program provides a broad array of guidance documents, one-on-one technical assistance, and financial assistance to help water suppliers and municipalities develop and implement effective protection programs. For more information, visit our web site at www.des.nh.gov/dwspp or call 271-3303.

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Putting Your Source Assessment Results To Work For You

A series exploring ways that assessment results can be used to focus your protection efforts.

A Tale of Three Towns Working with NeRWA

Many communities and water systems are taking advantage of the Drinking Water Source Assessment Reports prepared by DES to further their source protection efforts. Yet for some, interpreting these reports and using the information they contain to increase protection can seem a daunting and time-consuming task. Fortunately, the Towns of Plymouth, Plaistow and Walpole have found assistance to do this from the Northeast Rural Water Association (NeRWA).

In each instance, the towns used the assessment reports as the starting point. After reviewing the reports, a public meeting was held to hear ideas and determine interest in source water protection. In each case, there was enough public support to form a source water protection committee. While always diverse, committee composition varied in each town due to the community's unique needs. For example, in Walpole, which has a large agricultural land base, farmers played a key role on the team.

Each planning committee had a similar charge beginning with a review of the inventory of potential contamination sources (PCSs) provided by DES, to check for accuracy and completeness. At this point, committees found it useful to ask themselves questions such as, "Are there any past land uses that pose a concern? Any local land uses that may pose a threat but do not show up here because they don't require a state permit?"

Once the inventories were deemed complete, the committees then prioritized threats and brainstormed ways to address each one. The groups were careful to consider non-regulatory measures such as outreach and education as well as regulatory measures such as zoning changes. Some results of the process include:

The Town of Plaistow devoted much of its plan to developing an education program that included providing a

water resources workshop for the local elementary school. Teachers now use the information, resources, and Project WET curriculum in their classes and the Plaistow committee is sharing their success with other communities.

The Plymouth committee successfully petitioned the state to have their wellhead protection area reclassified to GAA, the highest level of protection. Groundwater reclassification to GAA prevents the siting of six high-risk land uses (such as a solid waste landfill). As a result of this process, Plymouth will manage potential contamination sources through education and inspections. Reclassification also provides the local entity with the authority to enforce BMP rules in the protected area.

Lastly, the Walpole committee recommended changes to local zoning which would increase protection to their wells by adopting an aquifer overlay district.

Thanks to NeRWA, each community was able to create a plan that best suited its need and character. The end result in all cases was increased protection of drinking water sources. NeRWA staff are available to assist your community or water system with a variety of services. They can help develop community-wide source protection plans such as these in instances where it makes sense to work collaboratively, perhaps because several public water systems are close to one another, share the same aquifer or surface water supply, or are threatened by the same potential sources of contamination. NeRWA also has experience developing watershed plans for surface water systems. In addition, NeRWA can assist water systems with services such as preparation of wellhead plans, leak detection, water treatment and distribution trouble-shooting, and budget development. For more information, visit www.neruralwater.org.

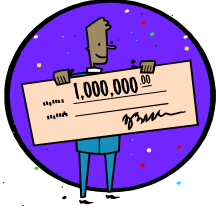
Join Us for the NH Drinking Water Week Festival on May 5 in Littleton!



Students from northern New Hampshire will gather at the National Guard Armory in Littleton on May 5, 2004 to celebrate National Drinking Water Week (May 2-8). Activities for students will focus on learning about drinking water and what every person can do to protect it.

If your system or organization would like to participate by putting up an exhibit or competing in the water taste-testing contest, please contact Jessica Brock at 271-3303. More information is available on the web at www.des.nh.gov/wseb. Fourth and fifth grade classes interested in attending should contact Nicole Clegg at 271-4071.

Eighteen Protection Projects Chosen for Grant Funding



DES's Drinking Water Source Protection Program is pleased to announce that 18 projects have been selected for funding through its Source Water Protection Grant Program. Grants are available annually to fund projects to protect existing sources of public drinking water. Applicants can receive up to \$15,000 to cover all aspects of source protection including delineation, assessment and implementation. A total of 23 proposals were submitted divided equally between security and source protection projects. Eighteen projects, totaling over \$185,000, were recently approved. The following are examples of funded projects:

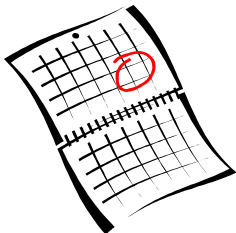
The Lakes Region Planning Commission is continuing its efforts in the Belmont, Tilton, Northfield aquifer protection project (featured in our Spotlight on page 2) by implementing one of the priorities identified in Phase I of the project. LRPC will develop a best management practice guidebook to provide guidance on minimizing the impacts of certain land uses and practices in order to protect the shared aquifer.

Pennichuck Water Works will be implementing source protection measures recommended in a previous watershed study by installing innovative stormwater infiltration systems for two parking areas to prevent untreated non-point source runoff from entering the Pennichuck Brooks. This project will also prove as a demonstration project for developers and others.

The Town of Peterborough is launching a protection project that will inventory and map stormwater drainage areas, assess septic systems within the wellhead protection areas, develop a septic system management plan and identify stormwater drainage BMPs.

A description of all new and previous grant projects can be found on our website at www.des.nh.gov/dwspp/grants.htm. Questions about the grant program should be directed to Johnna McKenna at 271-7017 or jmckenna@des.state.nh.us. Applications for the next round of funding will be available in August.

Plan to Attend the May 19 Source Protection Workshop



You're invited to DES's annual source protection workshop on Wednesday, May 19, 2004 at DES's offices, 29 Hazen Drive. The day-long workshop will include an overview of source protection planning and implementation tools, updates on current issues and legislation, case study presentations, and funding updates. The workshop will be of interest to planners, water suppliers,

local land use officials, and source protection consultants. Topics may include: using regional Source Assessment data to target protection programs, getting and managing DES grants, staying current on stormwater, and the role of structural BMPs in source protection. For more information, please contact Jessica Brock at 271-3303 or view the agenda at www.des.nh.gov/dwspp.

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